

according to Regulation (EC) No. 1907/2006

Revision Date 27.09.2018

Version 13.0

#### SECTION 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

Catalogue No. 106528

Product name Sodium disulfite (sodium metabisulfite) for analysis EMSURE®

ACS, Reag. Ph Eur

REACH Registration Number 01-2119531326-45-XXXX

CAS-No. 7681-57-4

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses Reagent for analysis

In compliance with the conditions described in the annex to this safety

data sheet.

#### 1.3 Details of the supplier of the safety data sheet

Company Merck KGaA \* 64271 Darmstadt \* Germany \* Phone: +49 6151 72-0

Responsible Department LS-QHC \* e-mail: prodsafe@merckgroup.com

## 1.4 Emergency telephone

Please contact the regional company representation in your country.

number

## **SECTION 2. Hazards identification**

# 2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4, Oral, H302

Serious eye damage, Category 1, H318

For the full text of the H-Statements mentioned in this Section, see Section 16.

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#### 2.2 Label elements

## Labelling (REGULATION (EC) No 1272/2008)

## Hazard pictograms





Signal word

Danger

Hazard statements

H302 Harmful if swallowed.

H318 Causes serious eye damage.

EUH031 Contact with acids liberates toxic gas.

Precautionary statements

Prevention

P280 Wear eye protection.

Response

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing.

P313 Get medical advice/ attention.

#### Reduced labelling (≤125 ml)

Hazard pictograms





Signal word

Danger

Hazard statements

H318 Causes serious eye damage.

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Catalogue No. 106528

Product name Sodium disulfite (sodium metabisulfite) for analysis EMSURE® ACS,Reag.

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Precautionary statements

P280 Wear eye protection.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P313 Get medical advice/ attention.

Index-No. 016-063-00-2

#### 2.3 Other hazards

None known.

#### **SECTION 3. Composition/information on ingredients**

#### 3.1 Substance

Formula Na<sub>2</sub>O<sub>5</sub>S<sub>2</sub> (Hill)

Index-No. 016-063-00-2

EC-No. 231-673-0

Molar mass 190,11 g/mol

#### Hazardous components (REGULATION (EC) No 1272/2008)

Chemical name (Concentration)

CAS-No. Registration number Classification

sodium metabisulphite (<= 100 %)

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

7681-57-4 01-2119531326-45-

XXXX Acute toxicity, Category 4, H302

Serious eye damage, Category 1, H318

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### 3.2 Mixture

Not applicable

#### **SECTION 4. First aid measures**

## 4.1 Description of first aid measures

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After inhalation: fresh air.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

## 4.2 Most important symptoms and effects, both acute and delayed

Irritation and corrosion

Risk of serious damage to eyes.

#### 4.3 Indication of any immediate medical attention and special treatment needed

No information available.

#### **SECTION 5. Firefighting measures**

## 5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

# 5.2 Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapours.

Fire may cause evolution of:

Sulphur oxides

#### 5.3 Advice for firefighters

Special protective equipment for firefighters

In the event of fire, wear self-contained breathing apparatus.

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#### Further information

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

#### **SECTION 6. Accidental release measures**

#### 6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

#### 6.2 Environmental precautions

Do not let product enter drains.

## 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

#### 6.4 Reference to other sections

Indications about waste treatment see section 13.

## **SECTION 7. Handling and storage**

#### 7.1 Precautions for safe handling

Advice on safe handling

Observe label precautions.

Hygiene measures

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

## 7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

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Tightly closed. Dry.

Recommended storage temperature see product label.

#### 7.3 Specific end use(s)

See exposure scenario in the Annex to this MSDS.

## **SECTION 8. Exposure controls/personal protection**

## 8.1 Control parameters

## **Derived No Effect Level (DNEL)**

Worker DNEL, longterm Systemic effects inhalation 10 mg/m³

#### **Predicted No Effect Concentration (PNEC)**

PNEC Fresh water 1 mg/l

PNEC Marine water 0,1 mg/l

PNEC Sewage treatment plant 75,4 mg/l

#### 8.2 Exposure controls

#### **Engineering measures**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

#### Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection

Tightly fitting safety goggles

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Hand protection

full contact:

Glove material: Nitrile rubber
Glove thickness: 0,11 mm

Break through time: > 480 min

splash contact:

Glove material: Nitrile rubber
Glove thickness: 0,11 mm
Break through time: > 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment

protective clothing

Respiratory protection

required when dusts are generated.

Recommended Filter type: Filter P 2 (acc. to DIN 3181) for solid and liquid particles of harmful substances

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

#### Environmental exposure controls

Do not let product enter drains.

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## **SECTION 9. Physical and chemical properties**

# 9.1 Information on basic physical and chemical properties

Form powder

Colour colourless

Odour slight

Odour Threshold No information available.

pH 3,5 - 5

at 50 g/l

20 °C

Melting point ca. 150 °C

(decomposition)

Boiling point/boiling range Not applicable

Flash point Not applicable

Evaporation rate No information available.

Flammability (solid, gas) The product is not flammable.

Lower explosion limit Not applicable

Upper explosion limit Not applicable

Vapour pressure No information available.

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Relative vapour density No information available.

Density 2,36 g/cm3

at 20 °C

Relative density No information available.

Water solubility ca.650 g/l

at 20 °C

Partition coefficient: n-

No information available.

octanol/water

Auto-ignition temperature No information available.

Decomposition temperature > 150 °C

Viscosity, dynamic No information available.

Explosive properties Not classified as explosive.

Oxidizing properties none

9.2 Other data

Ignition temperature Not applicable

Bulk density 1.000 - 1.200 kg/m3

## **SECTION 10. Stability and reactivity**

## 10.1 Reactivity

See section 10.3

#### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

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## 10.3 Possibility of hazardous reactions

Exothermic reaction with:

Oxidizing agents, nitrites, nitrates, Sulphides

Generates dangerous gases or fumes in contact with:

Acids

#### 10.4 Conditions to avoid

Strong heating (decomposition).

#### 10.5 Incompatible materials

no information available

## 10.6 Hazardous decomposition products

in the event of fire: See section 5.

#### **SECTION 11. Toxicological information**

#### 11.1 Information on toxicological effects

Acute oral toxicity

LD50 Rat: 1.540 mg/kg
OECD Test Guideline 401

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and

gastrointestinal tract.

Acute inhalation toxicity

Symptoms: Possible damages:, mucosal irritations

Acute dermal toxicity

LD50 Rat: > 2.000 mg/kg

(RTECS)

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Skin irritation

Rabbit

Result: No irritation

**OECD Test Guideline 404** 

Eye irritation

Rabbit

Result: Eye irritation

**OECD Test Guideline 405** 

Causes serious eye damage.

Sensitisation

Sensitisation test: Guinea pig

Result: negative

(External MSDS)

Germ cell mutagenicity

Genotoxicity in vitro

Ames test

Result: negative

Method: OECD Test Guideline 471

Mutagenicity (mammal cell test): micronucleus.

Result: negative

(IUCLID)

Carcinogenicity

Did not show carcinogenic effects in animal experiments. (IUCLID)

Reproductive toxicity

No impairment of reproductive performance in animal experiments. (IUCLID)

Teratogenicity

Did not show teratogenic effects in animal experiments. (External MSDS)

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Specific target organ toxicity - single exposure

This information is not available.

Specific target organ toxicity - repeated exposure

This information is not available.

Aspiration hazard

This information is not available.

#### 11.2 Further information

After absorption:

We have no description of any symptoms of toxicity.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

#### **SECTION 12. Ecological information**

#### 12.1 Toxicity

Toxicity to fish

LC50 Oncorhynchus mykiss (rainbow trout): 150 - 220 mg/l; 96 h

DIN 38412 part 15

Toxicity to daphnia and other aquatic invertebrates

EC50 Daphnia magna (Water flea): 89 mg/l; 48 h

OECD Test Guideline 202

Toxicity to algae

IC50 Desmodesmus subspicatus (green algae): 48 mg/l; 72 h

OECD Test Guideline 201

Toxicity to bacteria

EC50 Pseudomonas putida: 56 mg/l; 17 h

(IUCLID)

## 12.2 Persistence and degradability

Biodegradability

The methods for determining the biological degradability are not applicable to inorganic substances.

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Chemical Oxygen Demand (COD)

165 mg/g

(calculated) (External MSDS)

#### 12.3 Bioaccumulative potential

No information available.

## 12.4 Mobility in soil

No information available.

#### 12.5 Results of PBT and vPvB assessment

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

#### 12.6 Other adverse effects

Discharge into the environment must be avoided.

## **SECTION 13. Disposal considerations**

Waste treatment methods

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

## **SECTION 14. Transport information**

#### Land transport (ADR/RID)

**14.1 - 14.6** Not classified as dangerous in the meaning of transport

regulations.

# Inland waterway transport (ADN)

Not relevant

## Air transport (IATA)

**14.1 - 14.6** Not classified as dangerous in the meaning of transport

regulations.

## Sea transport (IMDG)

according to Regulation (EC) No. 1907/2006

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**14.1 - 14.6** Not classified as dangerous in the meaning of transport

regulations.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

## **SECTION 15. Regulatory information**

## 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

Major Accident Hazard SEVESO III
Legislation Not applicable

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at

work. Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where

applicable.

Regulation (EC) No 1005/2009 on substances that not regulated

deplete the ozone layer

Regulation (EC) No 850/2004 of the European not regulated

Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending

Directive 79/117/EEC

Substances of very high concern (SVHC)

This product does not contain substances

of very high concern according to

Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of  $\geq$  0.1 % (w/w).

National legislation

Storage class 10 - 13

#### 15.2 Chemical safety assessment

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For this product a chemical safety assessment was not carried out.

#### **SECTION 16. Other information**

#### Full text of H-Statements referred to under sections 2 and 3.

H302 Harmful if swallowed.

H318 Causes serious eye damage.

## Training advice

Provide adequate information, instruction and training for operators.

#### Labelling

Hazard pictograms





Signal word

Danger

Hazard statements

H302 Harmful if swallowed.

H318 Causes serious eye damage.

EUH031 Contact with acids liberates toxic gas.

Precautionary statements

Prevention

P280 Wear eye protection.

Response

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing.

P313 Get medical advice/ attention.

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# Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

# Regional representation

This information is given on the authorised Safety Data Sheet for your country.

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.

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#### **EXPOSURE SCENARIO 1 (Industrial use)**

#### 1. Industrial use Reagent for analysis)

#### Sectors of end-use

SU 3 Industrial uses: Uses of substances as such or in preparations at industrial sites

SU9 Manufacture of fine chemicals

SU 10 Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)

## Chemical product category

PC21 Laboratory chemicals

#### **Process categories**

<i>PROC1</i> Use in closed process, no likelihood of exp	posure
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PROC2 Use in closed, continuous process with occasional controlled exposure

PROC3 Use in closed batch process (synthesis or formulation)

PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises

PROC5 Mixing or blending in batch processes for formulation of preparations and articles

(multistage and/ or significant contact)

PROC8a Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large

containers at non-dedicated facilities

PROC8b Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large

containers at dedicated facilities

PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including

weighing)

PROC10 Roller application or brushing

PROC15 Use as laboratory reagent

#### **Environmental Release Categories**

ERC1	Manufacture of substances
ERC2	Formulation of preparations

ERC6a Industrial use resulting in manufacture of another substance (use of intermediates)

ERC6b Industrial use of reactive processing aids

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#### 2. Contributing scenarios: Operational conditions and risk management measures

# 2.1 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC15

#### **Product characteristics**

Concentration of the Substance in Covers the percentage of the substance in the product up to

Mixture/Article 100 %.

Physical Form (at time of use) Solid, medium dustiness

## Frequency and duration of use

Frequency of use 8 hours/day
Frequency of use 5 days/week

#### Other operational conditions affecting workers exposure

Outdoor / Indoor Indoor without local exhaust ventilation (LEV)

#### Organisational measures to prevent /limit releases, dispersion and exposure

Covers daily exposures up to 8 hours.

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear protective gloves/ eye protection/ face protection.

#### 3. Exposure estimation and reference to its source

#### **Environment**

A chemical safety assessment was performed according REACH Article 14(3), Annex I, sections 3 (Environmental Hazard Assessment) and 4 (PBT/vPvB Assessment). As no hazard was identified, an exposure assessment and risk characterisation is not necessary (REACH Annex I section 5.0).

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#### Workers

CS	Use descriptor	Exposure duration, route, effect	RCR	Exposure Assessment Method
2.1	PROC1	longterm, inhalative, systemic	0,001	MEASE
2.1	PROC2	longterm, inhalative, systemic	0,05	MEASE
2.1	PROC3	longterm, inhalative, systemic	0,1	MEASE
2.1	PROC4	longterm, inhalative, systemic	0,5	MEASE
2.1	PROC5	longterm, inhalative, systemic	0,5	MEASE
2.1	PROC8a	longterm, inhalative, systemic	0,5	MEASE
2.1	PROC8b	longterm, inhalative, systemic	0,5	MEASE
2.1	PROC9	longterm, inhalative, systemic	0,5	MEASE
2.1	PROC10	longterm, inhalative, systemic	0,5	MEASE
2.1	PROC15	longterm, inhalative, systemic	0,05	MEASE

The default parameters and -efficiencies of the applied exposure assessment model were used for the calculation (unless stated differently).

For (other) acute effects risk management measures are based on qualitative risk characterisation.

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Please refer to the following documents: ECHA Guidance on information requirements and chemical safety assessment Chapter R.12: Use descriptor system; ECHA Guidance for downstream users; ECHA Guidance on information requirements and chemical safety assessment Part D: Exposure Scenario Building, Part E: Risk Characterisation and Part G: Extending the SDS; VCI/Cefic REACH Practical Guides on Exposure Assessment and Communications in the Supply Chain; CEFIC

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Guidance Specific Environmental Release Categories (SPERCs).

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#### **EXPOSURE SCENARIO 2 (Professional use)**

# 1. Professional use Reagent for analysis)

#### Sectors of end-use

SU 22 Professional uses: Public domain (administration, education, entertainment, services,

craftsmen)

#### Chemical product category

PC21 Laboratory chemicals

#### **Process categories**

PROC15 Use as laboratory reagent

#### **Environmental Release Categories**

ERC2 Formulation of preparations

ERC6a Industrial use resulting in manufacture of another substance (use of intermediates)

ERC6b Industrial use of reactive processing aids

#### 2. Contributing scenarios: Operational conditions and risk management measures

## 2.1 Contributing scenario controlling worker exposure for: PROC15

#### **Product characteristics**

Concentration of the Substance in Covers the percentage of the substance in the product up to

Mixture/Article 100 %.

Physical Form (at time of use) Solid, medium dustiness

# Frequency and duration of use

Frequency of use 8 hours/day

Frequency of use 5 workdays/week

## Other operational conditions affecting workers exposure

Outdoor / Indoor Indoor without local exhaust ventilation (LEV)

## Organisational measures to prevent /limit releases, dispersion and exposure

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Covers daily exposures up to 8 hours.

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear protective gloves/ eye protection/ face protection.

#### 3. Exposure estimation and reference to its source

#### **Environment**

A chemical safety assessment was performed according REACH Article 14(3), Annex I, sections 3 (Environmental Hazard Assessment) and 4 (PBT/vPvB Assessment). As no hazard was identified, an exposure assessment and risk characterisation is not necessary (REACH Annex I section 5.0).

#### **Workers**

CS	Use descriptor	Exposure duration, route, effect	RCR	Exposure Assessment Method
2.1	PROC15	longterm, inhalative, systemic	0,05	MEASE

The default parameters and -efficiencies of the applied exposure assessment model were used for the calculation (unless stated differently).

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Please refer to the following documents: ECHA Guidance on information requirements and chemical safety assessment Chapter R.12: Use descriptor system; ECHA Guidance for downstream users; ECHA Guidance on information requirements and chemical safety assessment Part D: Exposure Scenario Building, Part E: Risk Characterisation and Part G: Extending the SDS; VCI/Cefic REACH Practical Guides on Exposure Assessment and Communications in the Supply Chain; CEFIC Guidance Specific Environmental Release Categories (SPERCs).